APIs in Higher Education

THE CASE OF INCOMING EXCHANGES AT LU

Martin Charlier

U21 Global Mobility Week – 19/11/2021

Background

- Decentralized university, 8 faculties
- Different systems and routines for managing mobility

- Common principles:
  - Nomination/Application deadlines
  - Accepted students transferred student register LADOK upon arrival
  - Course application and evaluation done before arrival. No add and drop period

- 2018-2019: tendering new mobility system
  - No system to “manage everything”
  - Mapping processes with IROs
  - Specification of needs and requirements with IROs

API

- Application Programming Interface: a set of operations that allows different systems to connect and talk to each other. It can be used to exchange data with each other (integrate), to “translate” information contained in other systems.
  - Metaphor: waiter in a restaurant

- Many systems are integrated within HEIs
- Example of international API project impacting HEIs:
  - Erasmus Without Paper: 20+ APIs

Initiate the process

- First: ER initiates contact with IT department and LADOK team, explains our needs, sketch what is expected.
- Use process maps
- Map necessary data for managing mobility (exchange partners, semesters)
- Map what the system allows to send through REST-API


```
"email": "mattim@cs.university.fi",
"userId": "19191919",
"officialIdNumber": null,
"hostOrganisationCountry": "702",
"hostOrganisationCode": null,
"hostOrganisationName": "University of Singapore",
"hostOrganisationId": "12121418",
"internalType": "1",
"majorSubject": "Computer Science",
"studyProgram": "Software Engineering",
```

Two integrations

- Integration 1: courses “available to exchange students” sent from LADOK to SoleMove (approx 800)
  - Process-specific data is added
- Integration 2:
  - Only concerns students who’ve received LoA
  - Adds student’s home university, exchange semester. Key is social security number.
  - Transfers course acceptance (2x/day)

After two years

- After first year:
  - Error reports
  - Integration of withdrawal from exchange/course
  - Adjusted rules for APIs
- Total work: 150 working hours from LU's IT. Almost no extra costs.
- Efficiency increase: saves at least 150h of manual work per semester, reduces human errors.
- Objective reached: management of incoming student mobility fully integrated from nomination to semester start.

Going further

- Essential to:
  - know your processes well
  - know your system well
  - maintain dialogue with IT
  - Communicate with end users

- Beyond this integration:
  - In SoleMove: integration of outgoing mobility
  - Other mobility databases for grant management to be integrated to LADOK

To U21 members

- How is your university managing mobility digitally?
  - Single system? In-house?
- Any similar projects at your University?

LUND
UNIVERSITY

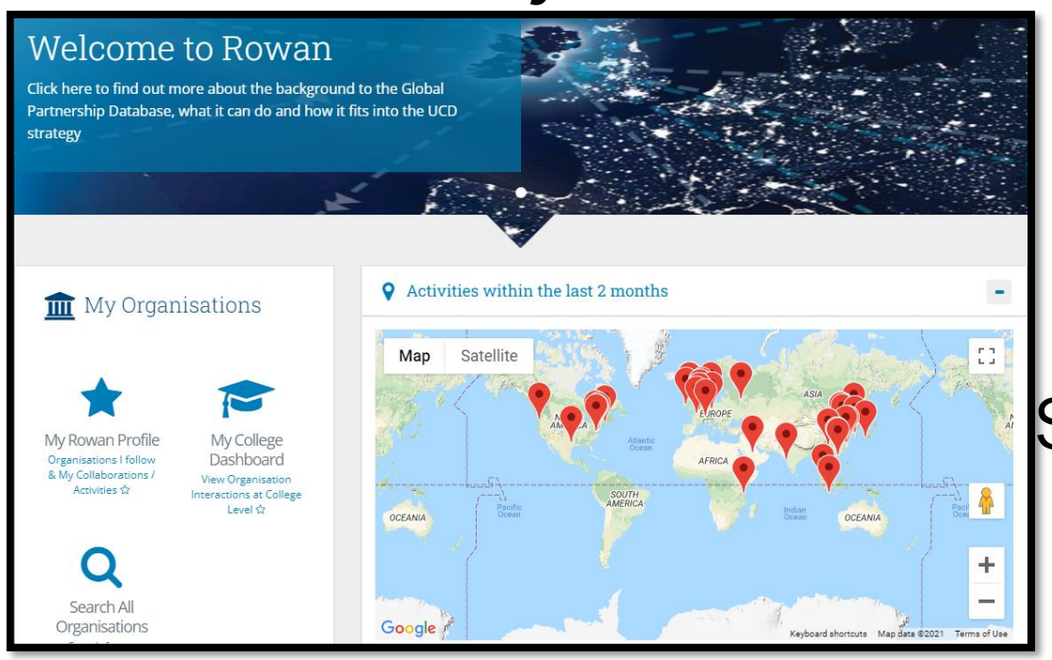
Getting to the Bottom of Mobility Balances with Bell Curves

Shane Lordan
UCD Global Projects Officer

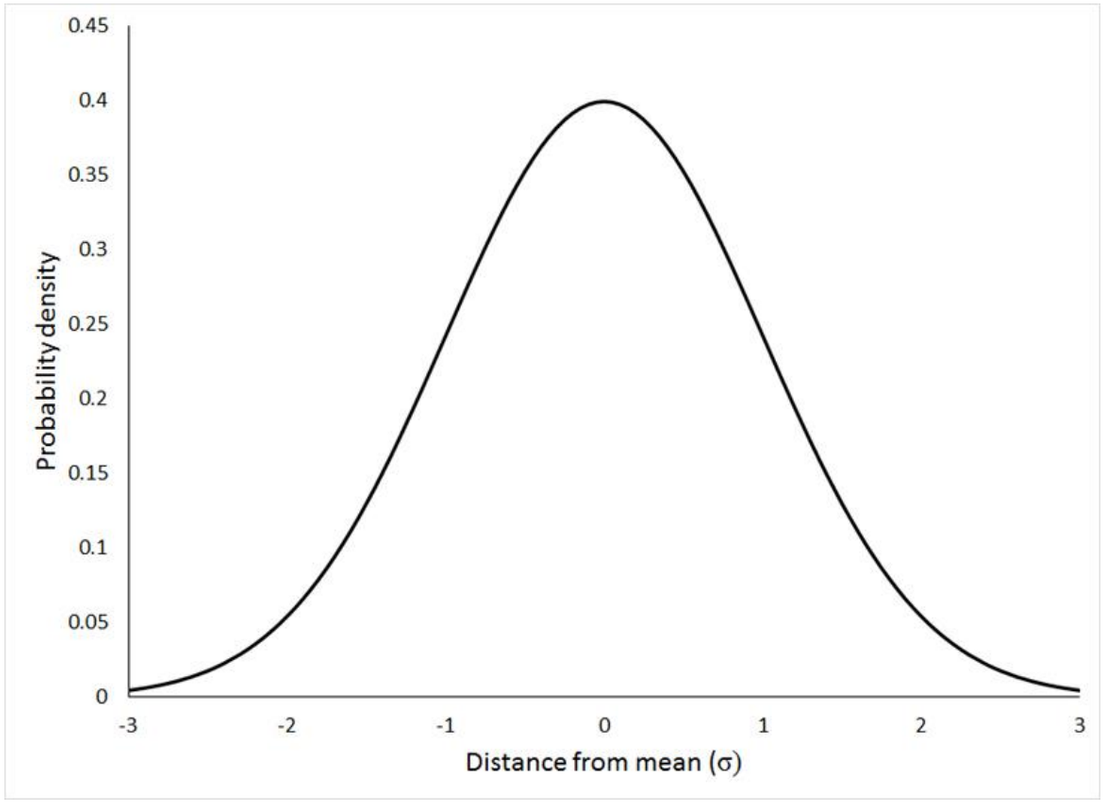
On your marks…

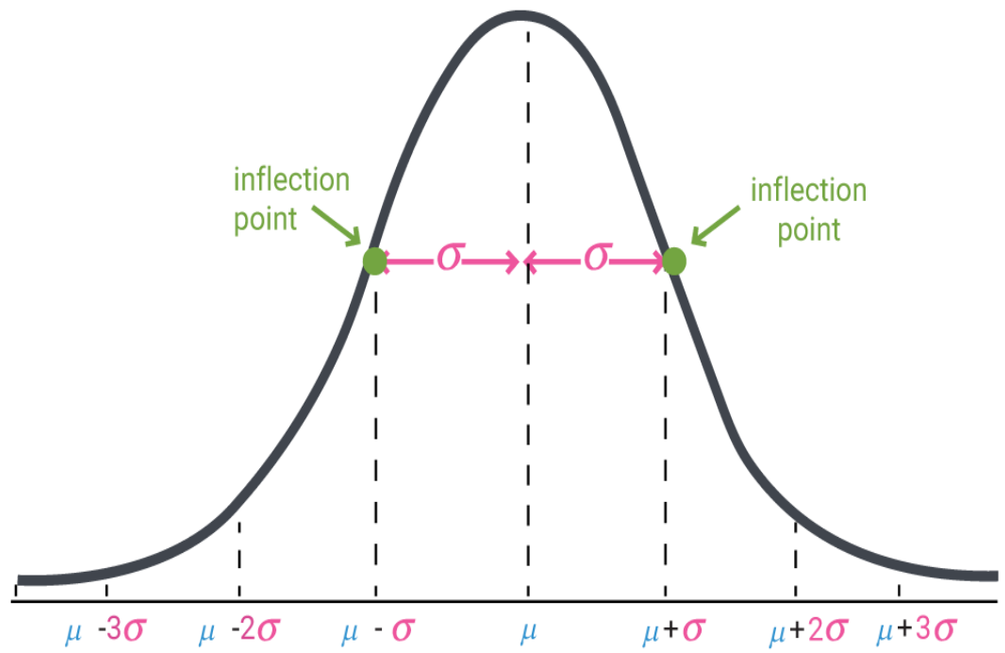
College Engagement Plans

- First systematic review of UCD partnerships ecosystem
- S



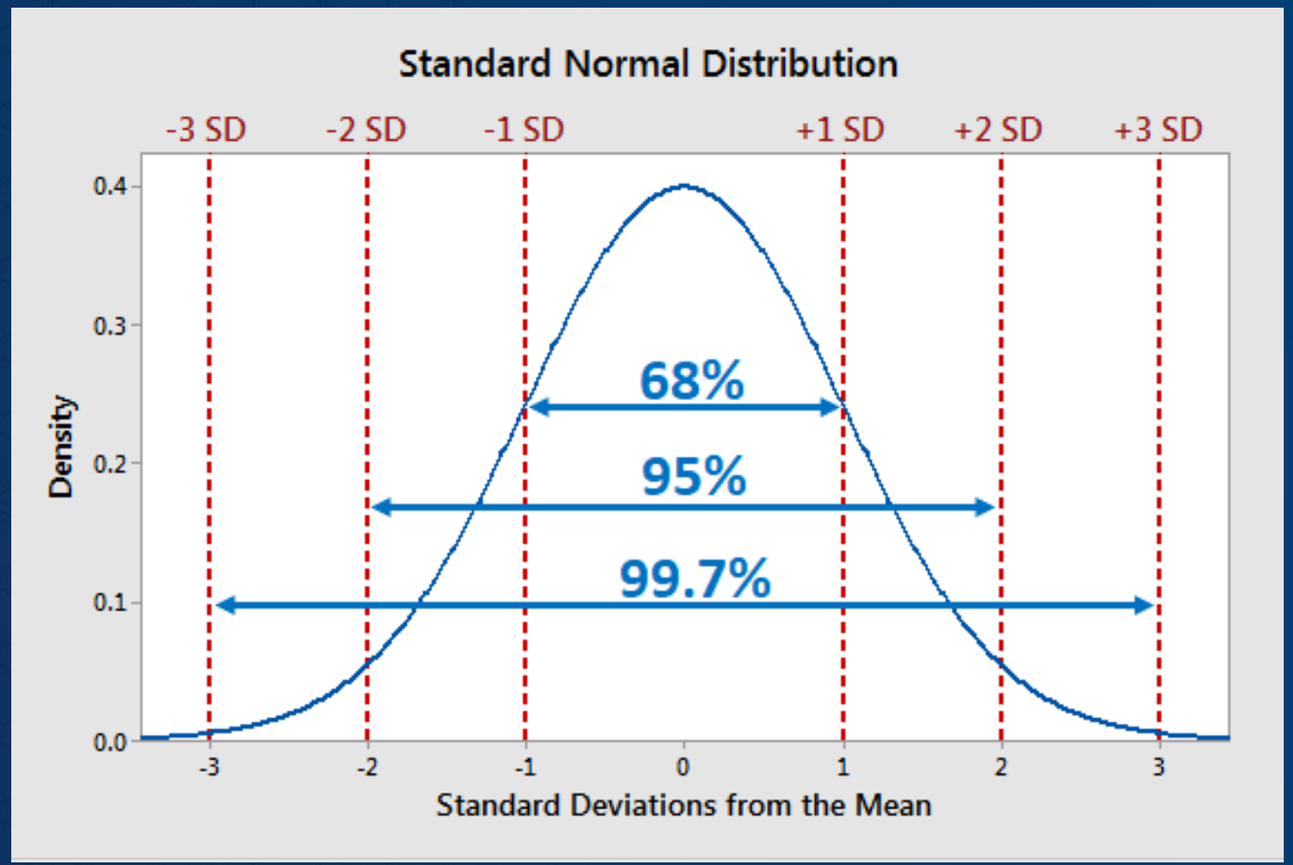
Bell Curves


0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Probability density
-3
-2
-1
0
1
2
3
Distance from mean (σ)


inflection point
inflection point
σ
σ
μ -3σ
μ -2σ
μ - σ
μ
μ+σ
μ+2σ
μ+3σ

The Empirical Rule

- 68% of observed data points will lie inside one standard deviation of the mean/average (+/-1σ)
- 95% will fall within +/-2σ
- 99.7% will fall within +/-3σ



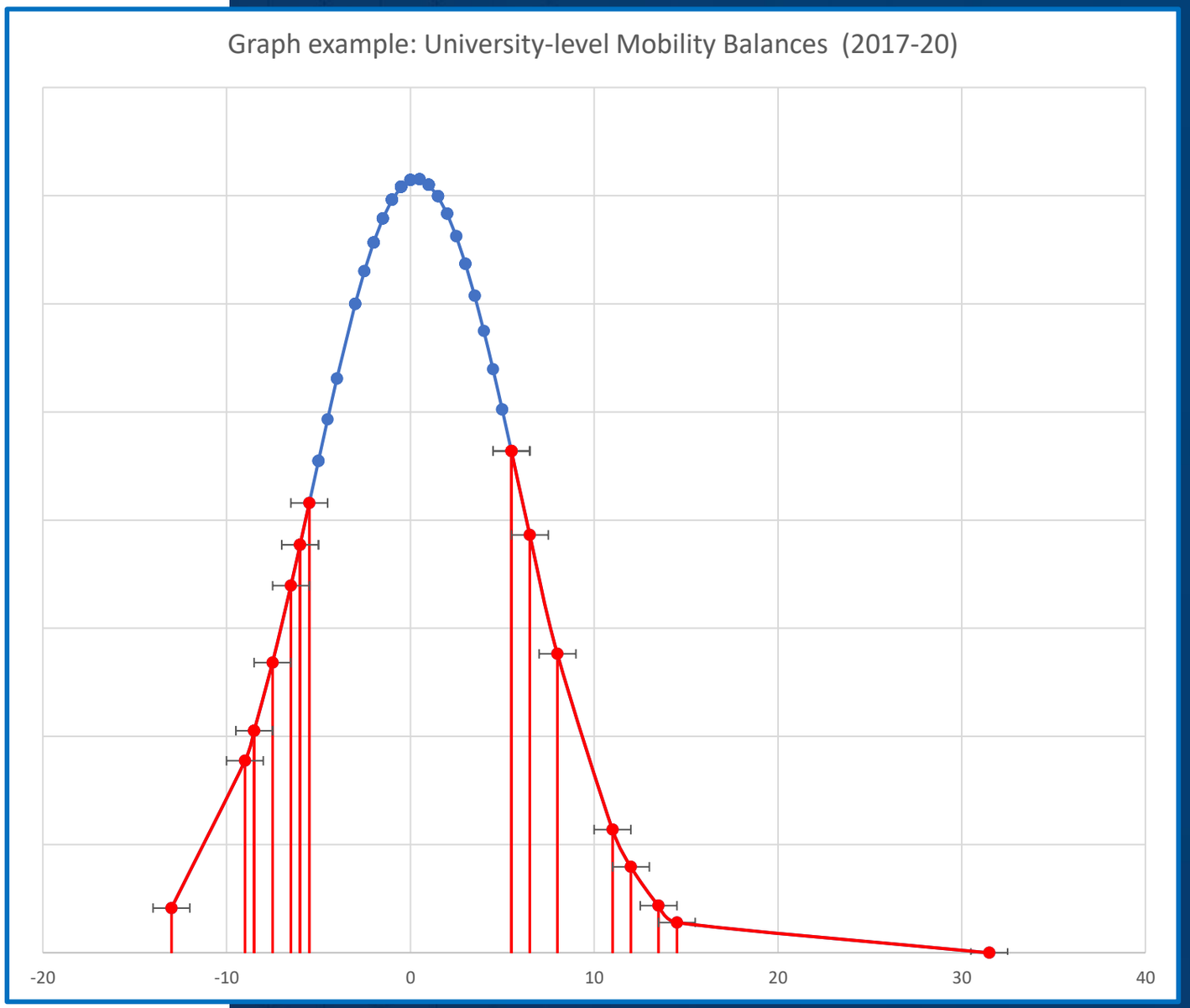
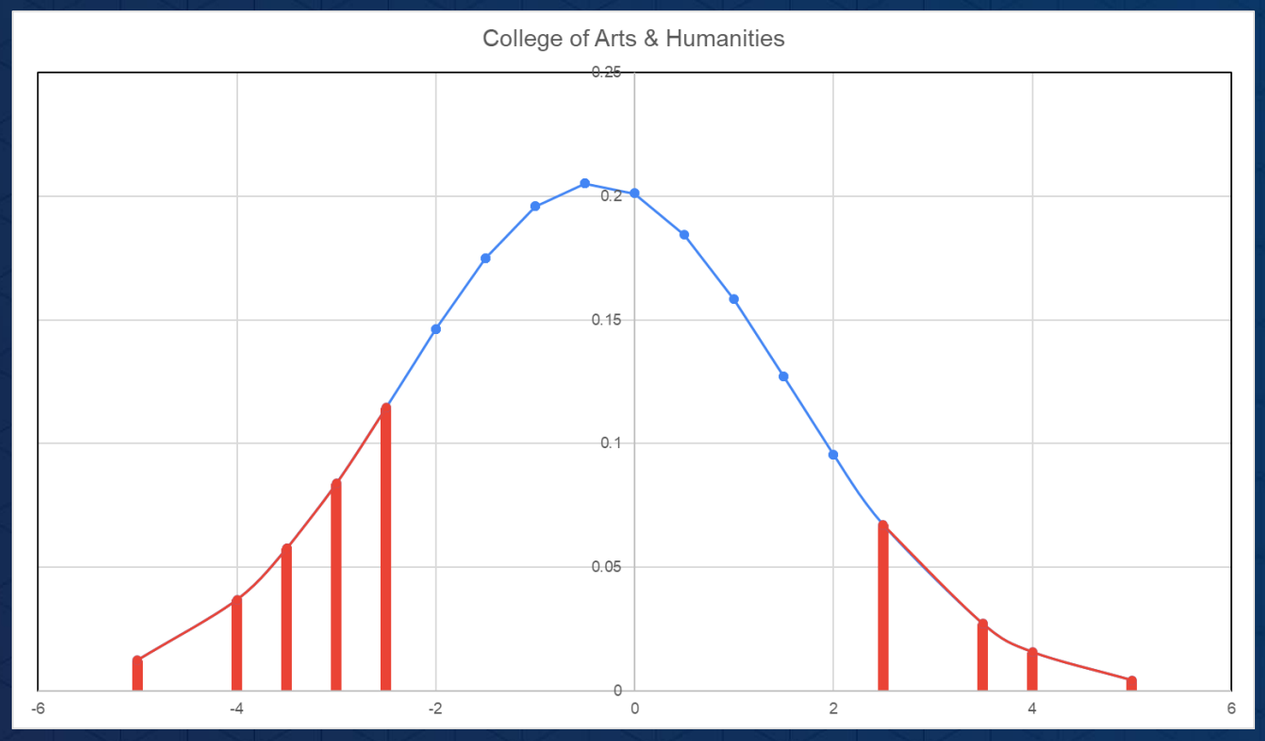
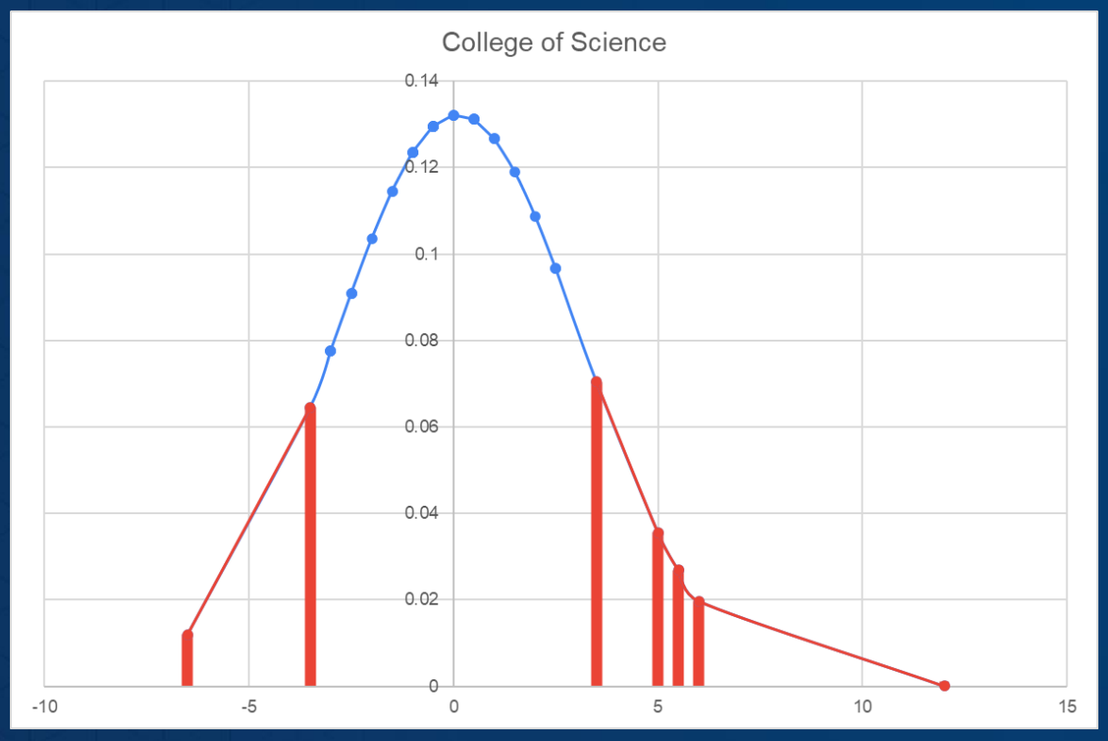
University Level Balances

Region	Lead College	UCD-wide FTE Out 17-20	UCD-wide FTE In 17-20	Partner Balance (UCD)
North America	University-Wide	2	0	2
Latin America	University-Wide	0	1.5	-1.5
Oceania	University-Wide	11	8	3

College Level Balances

Region	Lead College	CSSL Total FTE Out 17-20	Uni-wide FTE Out 17-20	CSSL share of 3yr OG activity	CSSL Total FTE In 17-20	Uni-wide FTE In 17-20	CSSL share of 3yr IC activity	Partner Balance (CSSL)	Partner Balance (UCD)
North America	University-Wide	1	2	50%	0	0	0%	1	2
Latin America	University-Wide	0	0	0%	1.5	1.5	100%	-1.5	-1.5
Oceania	University-Wide	5.5	11	50%	4	8	50%	1.5	3

Partner	Balance	Distribution	Shaded Area	Average	Standard Dev	Shade L	Shade R
Partner 1	-3.5	0.03474818	0.03474818	0.040540541	1.854061934	-2	2
Partner 2	-3	0.056078076	0.056078076				
Partner 3	-3	0.056078076	0.056078076				
Partner 4	-2.5	0.084152981	0.084152981				
Partner 5	-2	0.11742519	#N/A				
Partner 6	-2	0.11742519	#N/A				
Partner 7	-1.5	0.152359103	#N/A				
Partner 8	-1.5	0.152359103	#N/A				
Partner A	-1.5	0.152359103	#N/A				
Partner B	-1	0.183819215	#N/A				
Partner C	-1	0.183819215	#N/A				
Partner D	-0.5	0.206219046	#N/A				
Partner E	-0.5	0.206219046	#N/A				
Partner F	-0.5	0.206219046	#N/A				
Partner G	-0.5	0.206219046	#N/A				
Partner H	-0.5	0.206219046	#N/A				
Partner I	-0.5	0.206219046	#N/A				
Partner J	-0.5	0.206219046	#N/A				
Partner K	-0.5	0.206219046	#N/A				
Partner L	0	0.215120603	#N/A				
Partner M	0	0.215120603	#N/A				
Partner N	0	0.215120603	#N/A				
Partner O	0.5	0.208665479	#N/A				
Partner P	0.5	0.208665479	#N/A				
Partner Q	0.5	0.208665479	#N/A				
Partner R	0.5	0.208665479	#N/A				
Partner S	1	0.18820648	#N/A				
Partner T	1.5	0.157846118	#N/A				
Partner U	1.5	0.157846118	#N/A				
Partner V	2	0.123097321	#N/A				
Parnter W	2	0.123097321	#N/A				
Partner X	2	0.123097321	#N/A				
Partner Y	2	0.123097321	#N/A				
Partner Z	3	0.060189966	0.060189966				
Partner AA	3.5	0.037738523	0.037738523				
Partner BB	3.5	0.037738523	0.037738523				
Partner CC	4	0.022001944	0.022001944				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